VALLEY WATCH, Inc.
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March 27, 2008

Scott Deloney, Chief
Programs Branch
Office of Air Quality MC 61-50
100 North Senate Avenue
Indiana Department of Environmental Management
Indianapolis, IN 46206-2251

RE: Southwestern Indiana Area Fine Particle ($PM_{2.5}$) Redesignation Petition and Maintenance Plan

Dear Mr. Deloney:

Please accept our comments on the referenced petition and plan. Valley Watch, Inc. is an Indiana not-for-profit corporation whose purpose is "to protect the public health and environment of the lower Ohio River Valley which includes all of the area that IDEM is petitioning to redesignate to attainment of the fine particle NAAQS.

Because our purpose is the protection of public health, we strongly object to IDEM's petition as being premature, failing to protect community health, and being sufficiently inconclusive due to serious gaps in the supportive data to meet the level necessary to be acceptable under the Clean Air Act, especially since we are dealing with very small numbers and IDEM is desiring to make this decision at an extremely close margin.

Health

Fine particles impact the public health of the tri-state. That is mainly due to the enormous emissions of sulfur dioxide and nitrogen oxides by the region's numerous coal burning power plants. The chemistry of fine particle formation is well established and it is estimated by EPA that more than 24,000 Americans have their lives shortened every year because of fine particle induced asthma, stroke, cancer and heart attacks.

Recognizing this, EPA's Clean Air Scientific Advisory Committee (CASAC), a blue ribbon panel of scientists recommended in 2005 and 2006 that the Annual NAAQS for fine particles be set at a level as low as 13 μg/m3 and no higher than 14 μg/m3. ***Please see Exhibit # 1, a letter written by CASAC to EPA discussing their recommendation.***

For the first time in history, EPA failed to heed the advice of CASAC and keep the annual standard the same as had been in effect for nearly a decade at 15 μg/m3. It was clear that EPA was ignoring the

scientific evidence on which the Clean Air Act requires standards to be set, "with an adequate margin of safety to protect human health."

IDEM is seeking to claim that this region, one that sports the largest concentration of coal capacity in the world, now has safe air.

Unfortunately, we remain a region with unhealthy air quality. Power plants, smelters, and chemical plants in our region belch huge volumes of toxic chemicals into our air. Some of our power plants are among the largest contributors to sulfur dioxide, nitrogen oxides, mercury and toxic pollution on earth.

It is clear from the data in 2005 that our fine particle levels can stay high for long periods and there have been days the last two years when visibility was nil and asthma ran rampant. In 2006, PM 2.5 levels soared to a whopping 73.6 μg/m3 on a day that a high school athlete died of an unknown heart problem in Henderson, KY. It was later found that his condition was consistent with illness exacerbated by increased levels of fine particle pollution.

Such high readings are not a fluke. When conditions are right, fine particle formation from sulfur and nitrogen emissions from the numerous power plants in the region can get out of hand. Temperature inversions coupled with hot weather can cause a severe build up of PM 2.5 that results in increased respiratory illness and other maladies, especially to people who suffer from those sorts of illness already.

As further proof that residents of this area are forced to breathe unhealthy air, a study was conducted by the Partnership for Healthcare Information through the University of Southern Indiana found:

> **In a comparative study of hospitalization rates for asthma in Vanderburgh (Evansville) and Allen (Ft. Wayne) counties, Vanderburgh County showed a consistently higher hospitalization rate across all age groups. The most significant differences were found in the younger age groups. In 1996, Vanderburgh County had a hospitalization rate of 51.7 per 10,000 versus 32.2 per 10,000 in Allen County for the 0-3 age group; for the 4-8 year old group Vanderburgh County's rate was 35.2 while Allen County's rate was 10.5; and the 9-13 year group showed 40.2 for Vanderburgh County and 8.3 for Allen County. These differences continue in 1997.** (Emphasis added)
> http://health.usi.edu/commhlth/asthma/asthma.htm

Allen County and Vanderburgh County are similar demographically and the only discernable difference that can account for the disparity of asthma hospitalization is the fact that Allen County has NO coal fired power plants in its proximity and coal fired power plants surround Vanderburgh County, including some of the largest such facilities in the world.

According to 2006 eGRID, the official joint emissions database for the Department of Energy and USEPA, indicate that just two of those Indiana plants, Gibson and Rockport emitted more than 200,000 tons of sulfur dioxide and 18,000 tons of nitrogen oxides all of which is subject to fine particle formation in downwind environs.

In 2005, Valley Watch was encouraged that the Clean Air Interstate Rule (CAIR) would result in a large reduction of those chemicals in our region. But a look at just those two power plants shows that reductions will be limited at best since Duke, Gibson's owners, have chosen to scrub their emissions on the cheap capturing only a fraction (approximately 50%)of the SO2 from three of five units of that plant instead of using Best Available Control Technology which would capture nearly 99%. And AEP's Rockport plant has no plans that we can ascertain to capture any of their enormous emissions of both NOx and sulfur dioxide until at least 2018 as required in a recent settlement with EPA over NSR violations.

To further complicate potential positive impacts of CAIR, a recent court hearing initiated by industry to challenge the rule may well turn the entire rule over and send it back to the EPA as a remand. Our intelligence indicates that the US Government (not surprisingly) made an exceptionally weak case for the rule before the Circuit Court of Appeals in Washington. Should that rule be overturned for any reason, whatever protections afforded by it will immediately be factored out. That could well mean that even facilities that have chosen to use scrubbers to control sulfur may cease in their construction, throwing all of the potential improvement in regional air quality into jeopardy and rending the assumptions used by IDEM in this proceeding false. ***Please see Exhibit 2, a story from tomorrow's edition of Inside EPA.***

All the assumptions made in this petition will no longer be valid should the DC Circuit Court decision overturn the CAIR Rule.

Couple these issues with the fact that IDEM has chosen to ignore that it is well established, with sound science, that health impacts occur at levels well below the politically based standard EPA issued in 2006 and it is easy to see that this action is exceptionally premature.

The whole NAAQS section of the Clean Air Act is design to be protective of human health with an adequate margin for safety. The action IDEM is seeking to invoke today is not protective of established understanding of human health and should be withdrawn by either IDEM of EPA as not protective of health.

Serious Data Gaps in this analysis

IDEM would have us believe that actual data shows that over the last several years fine particle levels have improved to the point that we can be considered in "attainment" of the NAAQS for PM2.5.

Unfortunately, the data they seek to base that determination on has serious gaps which should stop this action in its tracks until at least another year of data is collected in order to see a valid picture of the trends IDEM suggest will make and keep our air clean and healthy.

First, IDEM has chosen to use data from 2004, 2005 and 2006 to prove their case. That, by itself is faulty since data is available for 2007 and it is well known that 2004 was a year that had an exceptionally cool summer. EPA guidance, which is usually not followed, demands that periods of "unusual meteorological conditions" should not be used in determining the designation of attainment status for the NAAQS.

Because 2004 was exceptionally cool, the conditions for build up of fine particles simply did not happen. That resulted in reduced output of the numerous power plants in the region to run air conditioners, etc.

But, that is only a minor aspect of the serious data gaps we have identified. If data for 2005, 2006 and 2007 is used, which is appropriate, it is easy to find huge gaps that make any determination to attainment dubious if not fraudulent.

IDEM claims to have data to back up this petition but when 13% of the data is missing in 2006 and 16% in 2007, mostly during periods when high levels of fine particles are historically formed, their whole data set must be thrown into question.

In 2006 and 2007 numerous readings from the "official" monitor located at the Evansville Civic Center were missing entirely. In fact, during the months of June and August, two months when fine particle

formation has historically been at its peak, more than half of the data is missing from this analysis.

In June, six out of ten measurements are missing. In August, five out ten measurements are also missing.

But it is not simply the fact that the data is missing that is a problem, it is also a problem that on nine of the eleven missing days during those months, PM 2.5 levels at the other Evansville monitors showed values in excess of the Annual NAQQS for PM 2.5 with several reaching levels that doubled the standard. ***Please see Exhibit 3 a spreadsheet of missing data from 2006 and 2007.***

Who knows what the reading on the Civic Center monitor would have been? We feel that this significant data gap is sufficient reason to stop this process before it goes any further.

What caused the data gaps is uncertain. Malfeasance, ineptitude, even intent could be responsible. For years the monitors have been the responsibility of the Evansville EPA. Over those same years, the local EPA has been an advocate of relaxed air pollution rules and has shown a distinct bias toward increased economic activity instead of the protection of people's health. They have been unusually slow in alerting the public when pollution increases to unsafe levels.

The head of the Evansville EPA, the person responsible for collecting the data is a former member of the "Environmental Committee" of the local Chamber of Commerce. Now, she is married to another Committee member.

The Chamber is presided over by a man, who just last year very publicly complained about our PM 2.5 designation as somehow being unfair. Specifically, Chamber president, Matt Meadors declared at the Energy Summit of Southwest Indiana on August 31, 2007, "Personally, I believe the designation is unfair and shortsighted, I do not believe the region deserves to be punished and penalized simply because we have been blessed with an abundance of coal and the corresponding coal generating power facilities that locate here on top of these deposits."

We do not like the appearance of all this. The connections between the regulators and those they are supposed to regulate should be above even the appearance of impropriety. In this case they clearly are not.

What is the reason so many days of data are missing, especially when evidence is available to show that particle levels were high enough to raise the overall design value that pertains to air quality designations. There is no explanation attached to anything we have read to explain why any data is missing. Who knows? Was it lost? Was it contaminated? Are the filer samples still available for analysis? Have the been tampered with? These are questions that need answers before we can claim air quality is now safe.

If our design value was approaching the level recommended by CASAC of 14 μg/m3, a level that is considered "safe," data missing on days of high levels would not be such an issue. But, in this case, IDEM is seeking to use incomplete data, knowing that there are significant and germane gaps in its veracity with design values extremely close to the standard already.

The three year readings for this region, even by IDEM calculations using incomplete data, meet the standard with very little room for error. One monitor, at the University of Evansville even surpasses the standard but through 'rounding" manipulation IDEM claims that levels above the standard are "equal to or lower than the standard,' a bureaucratic spin if we ever saw one.

Valley Watch believes that this petition should be rejected due to the high level of uncertainty presented

by the data IDEM is using that has so many significant gaps at times when those gaps could, indeed, change the outcome of the petition.

To have values based on faulty data determine attainment of a standard that is already set too high to be protective of human health is not what the whole NAAQS process was intended to be when Congress passed the Clean Air Act.

Congress clearly wanted the Act to function to protect health with a margin of safety. This petition is a rejection of the principles codified in the Act in that it is clearly designed to allow for increased pollution in an area that already has air saturated with toxic chemicals, fine particles and ozone. All these chemicals impact the general health of the people of this region and IDEM knows that-they just don't seem to care.

We are uncertain what the compilation of another year's data would yield but whatever the result would be, it is essential that a redesignation be based on complete and verifiable data. In this case, the data is neither complete or verifiable and the petition should be rejected.

Implications for the future of the region

Indiana Governor Mitch Daniels has made it clear from the start of his term that he was in denial that air quality suffers in this state and he took action early on to sue USEPA over non-attainment designations across the state claiming that his quest for economic growth would be stifled by those EPA imposed labels.

He let his suit lapse when data for 2005 showed that levels of fine particles across the state were well above the established NAAQS for fine particles. Monitors around Evansville rose to an annual level of more than 16 μg/m3.

Now, Indiana is the very first state in the nation seeking advantage to redesignate under a "new" standard that has been determined to be less than protective of human health.

Valley Watch can only speculate as to his desire to forsake his constituents health just so more polluting industry can be built in and around areas that are currently not meeting the health based standards.

Bu we do know that Mr. Daniels and his IDEM Commissioner have a history of adopting unusual legal theories to allow for increase pollution. One such endeavor, the NPDES permit for the British Petroleum refinery in Whiting, Indiana even brought a serious objection from the entire United States Congress because it allowed for increased pollution into Lake Michigan against the wishes of other states bordering the Great Lakes who are seeking to improve water quality in those Lakes.

Daniels and his IDEM leader have made no secret that they simply do not believe that air quality is bad in the region or that the real function of the agency is one of environmental and health protection instead of economic development.

Neither, has Daniels been secretive about wanting to build numerous new coal fired power plants in this region, one that is already the largest concentration of coal fired capacity in the world.

It is those attitudes that recently caused the conservative Forbes Magazine to rebuke Indiana and some other dirty states in their assessment of "Green" states, saying, "So who's at the bottom? Mississippi, Louisiana, Alabama, Indiana and, at No. 50, West Virginia. **All suffer from a mix of toxic waste, lots of pollution and consumption and no clear plans to do anything about it. Expect them to remain that way.** " (Emphasis added) http://www.forbes.com/business/2007/10/16/environment-energy-vermont-biz-beltway-cx_bw_mm_1017greenstates.html

It seems to matter little what science might say or how many people become sick due to the enormous levels of myriad pollution in this region, the only thing that IDEM and the governor really desire is additional economic growth, even if that growth can be shown to be short term and deleterious to citizens' health.

If this petition is accepted by EPA and frankly, we have no doubt that it will be since that is the way business is done at both EPA and IDEM these days, it will mean that people in this region will once again be forced to subsidized the profits of polluting industry with their health.

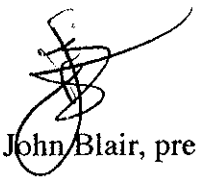
Of course, this is the way it has been for years as Forbes stated so succinctly and eloquently.

But we have grown weary of such foul treatment by our government and it appears a movement is afoot which encourages people to stand up and say, "We have had enough! We are tired of being a health sacrifice zone so that others can consume and waste energy needlessly."

IDEM's petition and its presumed success at the Federal level will serve to accelerate the feeling of disenfranchisement among citizens of southwest Indiana. It may even empower a whole new generation of activists and concerned citizens who are fed up with a government that shuns the needs of citizens while enhancing the prospects of profit for a few.

One thing is certain, however and that is that this petition will not make our air healthier. In fact, the likely outcome is further degradation of regional air quality and those are facts for which the Governor and his IDEM should be very ashamed.

Sincerely,



John Blair, president

Exhibit 1 Valley Watch comments

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

March 21, 2006

EPA-CASAC-LTR-06-002

Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: Clean Air Scientific Advisory Committee Recommendations Concerning the Proposed National Ambient Air Quality Standards for Particulate Matter

Dear Administrator Johnson:

EPA's Clean Air Scientific Advisory Committee (CASAC), supplemented by subject-matter-expert panelists — collectively referred to as the CASAC Particulate Matter (PM) Review Panel ("PM Panel") — held a public teleconference meeting on February 3, 2006 to consider whether to provide the Agency with additional advice and recommendations concerning EPA's proposed revisions to the PM National Ambient Air Quality Standards (NAAQS).

The PM Panel agrees that this letter adequately represents their views. The chartered CASAC — whose seven members are also members of the PM Panel — fully endorses the PM Panel's letter and hereby forwards it to you as the CASAC's consensus letter on this subject. The current Clean Air Scientific Advisory Committee roster is found in Appendix A of this letter, and the PM Panel roster is attached as Appendix B.

This meeting continued the PM Panel's review and recommendations on the Agency's revision to PM NAAQS. The most recent reports to you on this topic — *i.e.*, the PM Panel's final report from its peer-review of the 2nd draft PM Staff Paper (EPA-SAB-CASAC-05-007, dated June 6, 2005); and the CASAC's final report (EPA-SAB-CASAC-05-012, dated September 15, 2005) concerning the PM Panel's August 11, 2005 teleconference to review EPA Staff recommendations concerning a potential thoracic coarse PM standard in the final PM Staff Paper — are found at URLs: http://www.epa.gov/sab/pdf/casac-05-007.pdf and http://www.epa.gov/sab/pdf/sab-casac-05-012.pdf, respectively.

The CASAC requests reconsideration of the proposed ruling for the level of the annual $PM_{2.5}$ NAAQS so that the standard is set within the range previously recommended by the PM Panel, *i.e.*, 13 to 14 $\mu g/m^3$. The CASAC also recommends that the proposed 24-hour $PM_{10-2.5}$

primary standard be accompanied by a national monitoring program for $PM_{10-2.5}$ in both urban and rural areas to aid in informing future health and welfare effects studies on rural dusts. Moreover, the CASAC strongly recommends expansion of our knowledge of the toxicity of $PM_{10-2.5}$ dusts rather than exempting specific industries (*e.g.*, mining, agriculture). Finally, the CASAC requests that the sub-daily secondary standard to protect visibility, as recommended both in the PM Staff Paper and by the CASAC, be favorably reconsidered. The scientific rationale for the CASAC's recommendations is given in the remainder of this letter.

1. Background

The CASAC, comprised of seven members appointed by the EPA Administrator, was established under section 109(d)(2) of the Clean Air Act (CAA or "Act") (42 U.S.C. § 7409) as an independent scientific advisory committee, in part to provide advice, information and recommendations on the scientific and technical aspects of issues related to air quality criteria and NAAQS under sections 108 and 109 of the Act. The PM Panel is comprised of the seven members of the chartered (statutory) Clean Air Scientific Advisory Committee, supplemented by fifteen technical experts.

EPA announced its proposal to revise the NAAQS for particulate matter on December 20, 2005. This proposal was published in the *Federal Register* in a January 17, 2006 (71 FR 2620-2708) notice entitled, "National Ambient Air Quality Standards for Particulate Matter; Proposed Rule." As announced in that notice, the Agency will accept comments on the proposed rule for PM NAAQS for 90 days after its publication in the *Federal Register*.

2. CASAC Recommendations Concerning the Agency's Proposal to Revise the PM NAAQS

In August 2005, the CASAC, through its PM Panel, completed an extensive review of the PM air quality criteria document and the PM staff paper, making its recommendations to the Agency based on the current science. The CASAC acknowledged and was pleased that the EPA has chosen to accept its advice on some revisions of the PM NAAQS. However, the PM Panel noted that some of the scientific recommendations were not accepted. The CASAC recognizes that the EPA Administrator must include policy judgments as well as scientific information in making his decisions. That is one reason that the CASAC's recommendations for levels of the NAAQS are given in ranges, rather than as a single level. The value that the Administrator chooses within that range is clearly a policy judgment. The CASAC and the PM Panel have held in-depth discussions and deliberations, as described in previous reports, on the scientific data underpinning the basis for the recommended ranges. To underscore its previous recommendation, the CASAC would like to reiterate and expand the scientific rationale behind its advice, to better inform the Administrator on the scientific basis of its recommendations.

Proposed 24-hour $PM_{2.5}$ standard level: Generally, members of the PM Panel were pleased to see that the recommended revision of the 24-hour $PM_{2.5}$ level of the standard was within the range of that recommended by most members of the PM Panel. The PM Panel recognizes that, as a policy judgment, the high end of the suggested range was chosen.

Proposed annual $PM_{2.5}$ standard level: For this NAAQS level, the Agency has chosen to propose going outside the range of the CASAC-recommended levels and to retain the annual standard level at its current level of 15 $\mu g/m^3$. Our report to you dated June 6, 2005 stated,

> "There was a consensus among the [PM] Panel members in agreement with the EPA staff recommendations that focused on decreasing $PM_{2.5}$ concentrations through lowering of the 24-hour PM standard, but the [PM] Panel did not endorse the option of keeping the annual standard at its present level. It was appreciated that some cities have relatively high annual PM concentrations, but without much variation in concentrations from day-to-day. Such cities would only rarely exceed a 24-hour $PM_{2.5}$ standard, even if set at levels below the current standard. This observation indicates the desirability of lowering the level of the annual $PM_{2.5}$ standard as well.
>
> Of the options presented by EPA staff for lowering the level of the PM standard, based on the above considerations and the predicted reductions in health impacts derived from the risk analyses, most [PM] Panel members favored the option of setting a 24-hour $PM_{2.5}$ NAAQS at concentrations in the range of 35 to 30 $\mu g/m^3$ with the 98^{th} percentile form, in concert with an annual NAAQS in the range of 14 to 13 $\mu g/m^3$."

The CASAC would like to reiterate and elaborate on the scientific basis for the PM Panel's earlier recommendation, as follows:

First, the Agency's risk assessment indicating reduced health risks at annual $PM_{2.5}$ levels below the current standard was a key component in the PM Panel's recommendation to lower the current annual level. While the risk assessment is subject to uncertainties, most of the PM Panel found EPA's risk assessment to be of sufficient quality to inform its recommendations. The authors of the Agency's risk assessment followed CASAC's advice in conducting extensive sensitivity analyses and in revising the threshold assumptions as published in the final PM Staff Paper. The risk analyses indicated that the uncertainties would increase rapidly below an annual level of 13 $\mu g/m^3$ — and that was the basis for the PM Panel's recommendation of 13 $\mu g/m^3$ as the lower bound for the annual $PM_{2.5}$ standard level.

In our June 6, 2005 report, the PM Panel noted that "some cities have relatively high annual $PM_{2.5}$ concentrations, but without much variation in concentrations from day-to-day." Dependence on a lower daily $PM_{2.5}$ concentration limit alone cannot be relied on to provide protection against the adverse effects of higher annual average concentrations The changes suggested in the 24-hour standard will have significant impact when done "in concert" with a change in the annual standard. The effect of changing the short-term (98^{th} percentile) and long-term standard levels in concert can be seen in Figures 5-1 and 5-2 of the Agency's staff paper. The cities of St. Louis and Detroit are examples of cities where the estimated reduction in $PM_{2.5}$-related short-term and long-term mortality risk with a daily standard of 35 $\mu g/m^3$ would be enhanced by a concerted reduction in the annual standard below the current level of 15 $\mu g/m^3$.

While the risk analysis is the primary means of determining the effects on risk of changes in the 24-hour and annual $PM_{2.5}$ standards in concert, there is evidence that effects of long-term $PM_{2.5}$ concentrations occur at or below the current annual standard level of 15 $\mu g/m^3$. Studies described in the PM Staff Paper indicate that short-term effects of $PM_{2.5}$ persist in cities with

annual $PM_{2.5}$ concentrations below the current standard. In a Canadian study (Burnett *et al.*, 2000; and Burnett and Goldberg, 2003), significant associations with total and cardiovascular mortality were present at a long-term mean $PM_{2.5}$ concentration of 13.3 $\mu g/m^3$. There were also positive findings in studies in Phoenix, AZ (Mar *et al.*, 1999, 2003) and in Santa Clara County, CA (Lipsett *et al.*, 1997) in which long-term mean concentrations of $PM_{2.5}$ were approximately 13 $\mu g/m^3$.

In summary, the epidemiologic evidence, supported by emerging mechanistic understanding, indicates adverse effects of $PM_{2.5}$ at current annual average levels below 15 $\mu g/m^3$. The PM Panel realized the uncertainties involved in setting an appropriate, health-protective level for the annual standard, but noted that the uncertainties would increase rapidly below the level of 13 $\mu g/m^3$. That is the basis for the PM Panel recommendation of a level at 13-14 $\mu g/m^3$.

Therefore, the CASAC requests reconsideration of the proposed ruling for the level of the annual $PM_{2.5}$ NAAQS so that the standard is set within the range previously recommended by the PM Panel, i.e., *13 to 14 $\mu g/m^3$.*

Proposed 24-hour $PM_{10-2.5}$ Standards: The PM Panel was pleased to see that the indicator for coarse thoracic particles of concern to public health took into account some of the various approaches that the PM Panel identified for consideration. However, the PM Panel is concerned that some of the advice provided may have been misunderstood, as follows:

1. Monitoring: Our report of September 15, 2005 indicated that it was essential to monitor coarse thoracic particle concentrations in both rural and urban areas. As stated therein, "It is essential to have data collected on the wide range of both urban and rural areas in order to determine whether or not the proposed $UPM_{10-2.5}$ standard should be modified at the time of future reviews."

2. Source of toxic components in coarse thoracic particles: The preamble to the proposed rule on PM NAAQS cites "specific initial advice from CASAC (Henderson, 2005)," which was "most [PM] Panel members concurred that the current scarcity of information on the toxicity of rural dusts makes it necessary for the Agency to base its regulations on the known toxicity of urban-derived coarse particles." However, that same report also underscored the associated "need for monitoring thoracic coarse particle levels [in rural areas] and for population-based health-effects studies in those rural areas where it is feasible to conduct such studies." The CASAC neither foresaw nor endorsed a standard that specifically exempts all agricultural and mining sources, and offers no protection against episodes of urban-industrial $PM_{10-2.5}$ in areas of populations less than 100,000.

3. Secondary $PM_{10-2.5}$ Standards: As stated in the CASAC's report of September 15, 2005, the CASAC recommends that a secondary $PM_{10-2.5}$ standard be set at the same level as the primary $PM_{10-2.5}$ standard to protect against the various irritant, soiling and nuisance welfare or environmental effects of coarse particles. Since these effects are not uniquely related to urban sources or receptors, the standard should not be limited to urban areas.

*Accordingly, the CASAC recommends that the proposed 24-hour $PM_{10-2.5}$ primary standard be accompanied by monitoring of particles in both urban and rural areas to aid in informing future health effects studies on rural dusts. Moreover, the CASAC strongly recommends expansion of our knowledge of the toxicity of rural dusts rather than exempting specific industries (*e.g., *mining, agriculture). Serious consideration should also be given to a secondary $PM_{10-2.5}$ at a level similar to the proposed primary standard, but without the "urban" geographical constraint.*

Proposed Secondary $PM_{2.5}$ Standard to Protect Visibility: To protect visibility, the EPA staff paper, with concurrence of most CASAC members, recommended a sub-daily standard for $PM_{2.5}$ with a level in the 20 to 30 $\mu g/m^3$ range for a four- to eight-hour (4-8 hr) mid-day time period with a 92nd to 98th percentile form. The upper end of this range (25-30 $\mu g/m^3$ and a 92% to 95% form) was considered to be "lenient" in terms of protecting visibility, permitting a relatively high number of days with relatively poor visual air quality. It was suggested as a starting point for a national secondary standard given the uncertainties in both the current science of what is adverse to the public and in the mechanics of setting and operating a new sub-daily standard to protect visibility.

The proposed rule recommended relying on the proposed 24-hour primary standard of 35 $\mu g/m^3$ as a surrogate for visibility protection, noting through analysis that a percentage of counties with monitors (and the corresponding percentages of populations) not likely to meet the sub-daily secondary standard with a lenient level and form is comparable to those not likely to meet a 24-hour primary standard set at the proposed 35 $\mu g/m^3$level. EPA's proposal to revise the NAAQS for PM also cited limitations in the science and in the available hourly air quality data required for a sub-daily standard.

CASAC members note three cautions to the Agency's proposed visibility standard, which was outside the range recommended in the EPA staff paper and by most of the PM Panel:

1. As both the Staff Paper and the preamble to the proposed rule on PM NAAQS note, the $PM_{2.5}$ mass measurement is a better indicator of visibility impairment during daylight hours when humidities are low. Moreover, the sub-daily standard more clearly matches the nature of visibility impairment, whose adverse effects are most evident during daylight hours. Using the 24-hour primary standard as a proxy introduces error and uncertainty in protecting visibility Sub-daily secondary standards are used elsewhere (*e.g.*, a three-hour secondary standard for SO_2 and an eight-hour secondary standard for ozone), and should be the focus for visibility.

2. CASAC and its monitoring subcommittees have repeatedly commended EPA's initiatives promoting the introduction of continuous and near-continuous PM measurements in various aspects of its monitoring strategy (*e.g.*, Hopke, March 1, 2002; Henderson, April 20, 2005). The PM Panel notes that expanded deployment of continuous $PM_{2.5}$ monitors is consistent with setting a sub-daily standard to protect visibility, especially given that compliance time frames for secondary standards are less rigid than for primary standards.

3. The cited comparability between percentages of counties not likely to meet a lenient sub-daily secondary standard and the proposed 24-hour primary standard is a numerical coincidence, and is not indicative of any fundamental relationship between visibility and

health. Visual air quality is substantially impaired at $PM_{2.5}$ concentrations of 35 $\mu g/m^3$. However, peak short-term concentrations during daylight hours can be substantially higher than 24-hour average values, and the Agency is specifically seeking comments on whether the 24-hour primary standard should be set at an even higher level. It is not reasonable to have the visibility standard tied to the health standard, which may change in ways that make it even less appropriate for visibility concerns.

Thus, the CASAC requests that the sub-daily secondary standard to protect visibility, as recommended both in the PM Staff Paper and by most of the PM Panel, be favorably reconsidered.

Consideration of More Recent Scientific Information: The Agency has agreed to consider more recent publications if they are critical to the setting of new standards. Whether a new study is critical to the setting of new standards is difficult to determine. The CASAC is concerned that the newer literature suggested by either CASAC or by the general public will not have had a chance to undergo thorough EPA staff and CASAC review in a public setting. Such an approach would set a bad precedent for future reviews and weaken the role of the independent scientific review process. The PM Panel arrived at its recommendations based on the literature presented in the PM Air Quality Criteria Document and in the PM Staff Paper (publications through 2004). Scientific literature published since that time appears to support the findings of the PM Panel, but is not needed to support the original conclusions of the PM Panel. Individual members of the PM Panel, in response to the Administrator's request, have suggested new articles to consider, which are listed in Appendix C. These articles have not been reviewed either by EPA staff or by the CASAC in a public setting.

Views of PM Panel Members Not in Agreement with Majority Opinion: Finally, it should be noted that two of the 22 members of the PM Panel do not agree with the majority opinion of the PM Panel. These two PM Panel members expressed the view that the PM Staff Paper provided an adequate scientific basis for the EPA Administrator to propose an annual $PM_{2.5}$ standard from within the range of 12 to 15 $\mu g/m^3$ and a 24 hour $PM_{2.5}$ standard from within the range of 30 to 40 $\mu g/m^3$. It was their opinion that the choice of specific numerical levels from within the ranges was a policy decision. They also expressed the view that the Administrator, as well as individual scientists, might have different preferences from among the various policy options. Thus, these two PM Panel members felt that the choices made by the Administrator in the Proposed PM Rule are scientifically acceptable. One of these two PM Panel members also felt that the Administrator's decision to propose the use of the primary 24-hour $PM_{2.5}$ NAAQS as a secondary standard for visibility was an appropriate policy decision. He expressed the view that the science reviewed by and commented on by the PM Panel should inform the policy decision; however, the policy decision as to the level of visibility to accept is a responsibility of the Administrator outside the purview of the PM Panel.

Concluding Remarks: *In conclusion, the members of the CASAC PM Review Panel have carefully reviewed this letter, and all seven members of the statutory CASAC and a substantial majority of PM Panel members are in agreement that this letter, with the exception of the preceding paragraph immediately above, represents their views as expressed during the PM Panel's February 3, 2006 teleconference and subsequent e-mail correspondence to me.*

The CASAC is pleased to provide scientific advice to the Administrator concerning the proposed new standards for airborne particulate matter. We recognize that the setting of a NAAQS goes beyond the scientific data base into the realm of pubic policy. However, the efforts of the Agency's scientific staff as well as the CASAC in providing a sound scientific basis must, fundamentally, be the foundation of these standard-setting decisions. The members of the CASAC hope that we can continue to work with EPA both to provide the best scientific advice available and to aid the Agency in protecting the public health and the environment in an effective and efficient manner.

Sincerely,

/Signed/

Dr. Rogene Henderson, Chair
Clean Air Scientific Advisory Committee

Appendix A – Roster of the Clean Air Scientific Advisory Committee

Appendix B – Roster of the CASAC Particulate Matter Review Panel

Appendix C – Newer Literature Suggested by Individual PM Panel Members

Valley Watch Exhibit 2 Article from **Inside EPA**

COURT REJECTION OF CAIR WOULD HAVE MAJOR IMPACT ON EPA AIR RULES

Date: March 28, 2008 -

The possible overturning of EPA's clean air interstate rule (CAIR) by a key appellate court could complicate a host of rulemakings that the agency justified based on anticipated emission cuts as a result of CAIR, and also frustrate some Eastern states' ability to come into attainment with agency air quality standards, sources say.

A three-judge panel on the U.S. Court of Appeals for the D.C. Circuit during March 25 oral arguments raised tough questions over EPA's authority to issue CAIR -- which regulates sulfur dioxide (SO2) and nitrogen oxide (NOx) emissions from facilities -- raising the specter that the court could ultimately issue a ruling either vacating the rule in its entirety or ordering EPA to significantly revise it.

If CAIR were vacated, Congress would face intense pressure from states and others to pass a multi-pollutant bill to cut NOx and SO2 as CAIR would have done, these sources add, because EPA has made the estimated reductions under its federal plan such a key component in predicting power plant emissions for the foreseeable future.

The Bush administration pursued a "CAIR Trojan horse agenda" by relying on the rule to justify so many "weak" regulations, according to an environmentalist, who says the agency made a deal with the utility industry that "we'll make you go as far as CAIR and no farther."

The three-judge panel of the D.C. Circuit asked tough questions at the oral arguments over CAIR in State of North Carolina, et al. v. EPA -- a consolidated challenge to CAIR brought by states, industry and environmentalists -- indicating the court may issue a ruling either vacating the rule or requiring the agency to significantly revise it.

CAIR established a cap-and-trade program for reducing SO2 and NOx emissions by modifying the existing acid rain program set up by Congress in the 1990 Clean Air Act amendments. The final rule -- designed to reduce emissions from power plants in the Eastern United States -- allows utilities to buy emission credits or install pollution controls to achieve pollution reductions.

The court questioned EPA's statutory authority to modify the requirements of the acid rain program. The court also asked the agency whether CAIR as a regional plan satisfied the agency's mandate under the air act to control cross-border pollution among individual states (see related story).

If the court vacates CAIR, it would have major implications for a host of other rulemakings and proposals that are justified in part on expected emissions reductions that CAIR would achieve, including: implementation rules for the agency's particulate matter and ozone national ambient air quality standards (NAAQS); changes to EPA's new source review (NSR) program and several other air regulations.

EPA also relied on CAIR to achieve early reductions of mercury as a "co-benefit" of reducing SO2 and NOx by reasoning that some emission control technology can cut all three pollutants. These up-front cuts in mercury were also a key part of the agency's clean air mercury rule, recently vacated by the D.C. Circuit.

EPA also counted on anticipated pollution reductions under CAIR in its phase 2 ozone implementation rule, when it said CAIR makes reasonably available control technology (RACT) requirements unnecessary. Environmentalists are challenging the approach, saying EPA cannot waive requirements under one rule simply because a separate rule might also reduce emissions. Fresh briefs in the long-running phase 2 ozone implementation rule case, Natural Resources Defense Council v. EPA, are just starting to be filed.

Similarly, the agency said that facilities subject to CAIR would be deemed to qualify as installing RACT and other emission control measures in its proposed fine particulate matter (PM2.5) implementation rule -- another decision that prompted instant outcry from environmentalists and some states.

EPA also relies on the emissions reductions under CAIR in its proposed rule to establish a different emissions test for when power plants trigger NSR. For example, in an April 2007 supplemental notice on the NSR proposal -- in which the agency is proposing to switch from an annual emissions test to an hourly test -- EPA said that any emission increases as a result of its proposal "will be diminished as the CAIR [program is] implemented and the SO2 and NOx emissions for most [power plants] are capped."

If the court throws out CAIR, it will raise fresh questions about the legality of rules that are in part based upon CAIR.

Vacating CAIR would also likely frustrate Eastern states' ability to meet the newly-revised 8-hour ozone and PM2.5 NAAQS, because states were in part relying on emissions reductions under CAIR to help them move toward attainment of both the ozone and PM air standards. NOx is an ozone precursor, while SO2 is a precursor to PM.

Reductions under CAIR would have moved Eastern states most of the way to attainment of the current 0.084 parts per million (ppm) 8-hour ozone standard, and a further reduction based on CAIR would have gotten the states cost-effectively to the newly revised 0.075 ppm 8-hour standard.

Meanwhile, sources say a CAIR vacatur would strengthen the hand of Congress to pass multi-pollutant legislation. "Everyone has assumed CAIR would be upheld and would have taken care of SO2 and NOx reductions for the foreseeable future. If not, we're back to the drawing board, and it would create pressure on Congress to go back and address climate change and interstate air pollution" in multi-pollutant legislation, an industry source says. -- Jenny Johnson

Source: Inside EPA via InsideEPA.com Date: March 28, 2008
Issue: Vol. 29, No. 13

Exhibit 3 - 2007 Missing PM Data

U of E Dates Missing	Civic Center Data	Mill Road Data
6/26/07	16.8	---
7/14/07	15.5	13.9
8/1/07	34.4	31.1
9/6/07	33.6	24.6
9/9/07	15.1	11.7
11/23/07	7.6	8.7
12/8/07	21.1	19.7
12/11/07	10.2	10.8
12/23/07	3.4	3.3
12/26/07	14.3	11.4

Mill Road Dates Missing	Civic Center Data	U of E Data
2/14/07	7.9	7.1
2/17/07	14.8	15.2
2/20/07	10.8	9.9
5/18/07	7.8	8.8
5/21/07	15	14.9
6/26/07	16.8	---
10/15/07	---	15.5
10/24/07	5	4

Civic Center Dates Missing	U of E Data	Mill Road Data
4/6/07	5.8	6.7
4/18/07	11.2	11
4/21/07	19.7	19.3
5/24/07	25.8	23.9
5/27/07	27.7	29.9
6/2/07	22.3	19.8
6/5/07	8	7.7
6/11/07	16.5	17.2
6/14/07	31.5	28.2
6/17/07	29.6	29.1
6/23/07	20.2	20.6
7/8/07	26.2	23.4
8/4/07	30	28.8
8/7/07	18.2	18.3
8/10/07	11.1	11.5
8/13/07	24.7	25
8/16/07	25.2	24.4
10/15/07	15.5	---
10/30/07	17	14.1

Exhibit 3 - 2006 Missing PM Data

U of E Dates Missin	Civic Center Data	Mill Road Data
2/25/06	8.6	---
7/25/06	21.4	22.8
7/31/06	---	16

Mill Road Dates Missin	Civic Center Data	U of E Data
2/25/06	8.6	---
5/11/06	4.7	4.6
5/29/06	15.9	16.1
6/1/06	19.7	19.5
9/8/06	---	26.2
9/11/06	---	16.4
10/20/06	7.8	8.8
10/23/06	9.1	8.1
10/26/06	11.1	12.7
10/29/06	8.5	9.7
11/1/06	6.6	6.5

Civic Center Dates Missing	U of E Data	Mill Road Data
2/13/06	10.2	10.4
2/19/06	9.4	8.8
2/22/06	21.2	19.9
5/20/06	9.6	8.9
5/23/06	20.2	10.5
6/16/06	15.1	15
6/25/06	27.5	26.5
7/28/06	8.9	8.2
7/31/06	---	16
9/2/06	11	11.4
9/5/06	16.8	16.4
9/8/06	26.2	---
9/11/06	16.4	---
9/14/06	11.7	11.6
12/4/06	7.5	7.9
12/7/06	6.9	8.7